

CLAIMS

What is claimed is:

1. An interlocking polymer floorboard tile, comprising:
an elongate rectangular plank having a length, a width, and sides, and

5 including:

a top surface;

a perimeter wall supporting the top surface and defining a
perimeter boundary of the tile;

10 a lattice-type support structure, supporting the top surface,
comprising upright support walls disposed within the perimeter boundary
of the tile, having a height common with a height of the perimeter wall;
and

15 interlocking structure, comprising interlocking loops and pins
disposed on the sides of the tile, the loops being configured to mate and
interlock with pins of adjacent similar tiles to form a floor covering;
wherein, the length of the elongate plank is at least four times the width,
such that the plank resembles a wood floorboard, so as to produce a floor
covering resembling a wood floor.

20 2. A floor tile in accordance with claim 1, wherein the top surface of the tile
includes a visible pattern imprinted thereon.

3. A floor tile in accordance with claim 2, wherein the pattern resembles wood
grain.

25 4. A floor tile in accordance with claim 2, further comprising a protective coating
disposed over the visible pattern.

5. A floor tile in accordance with claim 4, wherein the protective coating comprises
30 at least one coat of polyurethane.

6. A floor tile in accordance with claim 5, wherein polyurethane comprises a one-
part all-solids UV-cured liquid polyurethane.

7. A floor tile in accordance with claim 6, wherein polyurethane is roller-applied to the top surface of the floor tile.

8. A floor tile in accordance with claim 4, wherein the protective coating is from 5 0.0005" to 0.002" thick.

9. A floor tile in accordance with claim 1, wherein the interlocking loops and pins are located according to a unitized spacing configuration, such that one side of one tile may interconnect with the interlocking structure of two adjacent tiles by straddling an 10 end joint between said two adjacent tiles.

10. An interlocking floor tile system, comprising:

15 a plurality of elongate rectangular polymer floor tiles having a length, a width, and sides, each tile including:

a top surface;

a perimeter wall supporting the top surface and defining a perimeter boundary of the tile;

20 a lattice-type support structure, supporting the top surface, comprising upright support walls disposed within the perimeter boundary of the tile, having a height common with a height of the perimeter wall;

and

interlocking structure, comprising interlocking loops and pins disposed on the sides of the tile;

25 wherein, the plurality of elongate floor tiles are disposed on a substrate in parallel orientation with the interlocking structure of each tile interconnected to an adjacent tile so as to form a floor covering resembling a wood plank floor.

11. A floor tile system in accordance with claim 10, wherein the top surface of each 30 tile includes a visible pattern imprinted thereon.

12. A floor tile system in accordance with claim 11, wherein the pattern resembles wood grain.

13. A floor tile in accordance with claim 11, further comprising a protective coating disposed over the visible pattern.

14. A floor tile in accordance with claim 13, wherein the protective coating 5 comprises at least one coat of one-part, all-solids, UV-cured liquid polyurethane from 0.0005" to 0.002" thick.

15. A floor tile in accordance with claim 10, wherein the interlocking loops and pins are located according to a unitized spacing configuration, such that one side of one tile 10 may interconnect with the interlocking structure of two adjacent tiles by straddling an end joint between said two adjacent tiles.

16. A floor tile in accordance with claim 15, wherein the plurality of tiles includes tiles of varying lengths.

15
17. A method for producing interlocking floor tiles, comprising the steps of:
a) providing an elongate, injection-molded polymer floor tile having a top surface and a length at least four times a width thereof;
b) transferring a printed pattern to the top surface after molding of the tile;
20 and
c) applying a protective coating atop the printed pattern.

25
18. A method in accordance with claim 17, further comprising the step of exposing the top surface of the tile to at least one of (1) an electric arc plasma, and (2) heat, prior to transferring the printed pattern thereonto.

19. A method in accordance with claim 17, wherein the step of transferring the printed pattern comprises transferring a wood grain pattern from a substrate to the surface of the tile by applying heat and pressure.

30
20. A method in accordance with claim 17, wherein the protective coating comprises at least one coat of one-part, all-solids, UV-cured liquid polyurethane from 0.0005" to 0.002" thick.